STIC Search


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=> d his full

     (FILE 'HOME' ENTERED AT 14:09:16 ON 05 MAY 2003)

     FILE 'HCAPLUS' ENTERED AT 14:09:27 ON 05 MAY 2003
L1        119098 SEA ABB=ON  ?BIND? AND ?SENS?
L2         13293 SEA ABB=ON  L1 AND (?BACT? OR ?VIRUS? OR ?VIRAL?)
L3            12 SEA ABB=ON  L2 AND (?OPTIC?(W)(?DIFFRACT? OR ?TRANSMIT? OR
                  ?REFLECT?))
L4         14187 SEA ABB=ON  L1 AND (?BACT? OR ?VIRUS? OR ?VIRAL? OR ?FUNG? OR
                  ?PROTOZ? OR ?ALLERG?(W)?REACT?)
L5            12 SEA ABB=ON  L4 AND ((?OPTIC? OR ?LIGHT?)(W)(?DIFFRACT? OR
                  ?TRANSMIT? OR ?REFLECT?))  12 citi from CA Plus

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT
     14:18:19 ON 05 MAY 2003
L6            18 SEA ABB=ON  L5
L7            17 DUP REMOV L6 (1 DUPLICATE REMOVED)  17 citi from other
                                                     databases
```

Results were the same when "fungal & protozoal infections & allergic reactions" were added.

Since there were relatively few hits, I didn't limit with "method" terms or with "device" terms.

Please let me know if you would like to have ~~search~~ revised in any way.

Mary Jane Ruhl
605-1155

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=> d que stat l5
L1        119098 SEA FILE=HCAPLUS ABB=ON  ?BIND? AND ?SENS?
L4         14187 SEA FILE=HCAPLUS ABB=ON  L1 AND (?BACT? OR ?VIRUS? OR ?VIRAL?
                 OR ?FUNG? OR ?PROTOZ? OR ?ALLERG?(W)?REACT?)
L5            12 SEA FILE=HCAPLUS ABB=ON  L4 AND ((?OPTIC? OR ?LIGHT?)(W)(?DIFFR
                 ACT? OR ?TRANSMIT? OR ?REFLECT?))


=> d ibib abs l5 1-12

L5   ANSWER 1 OF 12  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2002:241299  HCAPLUS
DOCUMENT NUMBER:          136:259542
TITLE:                    Diffraction-based cell detection using a
                          micro-contact-printed antibody grating
INVENTOR(S):              Craighead, Harold G.; St. John, Pamela M.; Cady,
                          Nathan; Davis, Robert C.; Batt, Carl A.
PATENT ASSIGNEE(S):       USA
SOURCE:                   U.S. Pat. Appl. Publ., 12 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     US 2002037593      A1   20020328       US 2000-496039   20000127
PRIORITY APPLN. INFO.:                   US 1999-116996P  P  19990125
AB   An optical biol. detector is able to bind specific targeted
     bacterial cells by stamping an antibody grating pattern onto a
     silicon surface.  The antibody grating alone produces insignificant
     optical diffraction, but upon immunocapture of the
     targeted cells, the optical phase change produces a diffraction pattern.
     Micro-contact printing provides a method for placing the antibody grating
     pattern directly onto a substrate surface with no addnl. processes or
     binding chems.  Antibodies or other biol. active material may be
     stamped directly onto clean native oxide silicon substrates with no other
     chem. surface treatments.  Direct binding of the antibodies to
     the silicon occurs in a way that still allows them to function and
     selectively bind antigen.  The performance of the sensor
     was evaluated by capturing Escherichia coli O157:H7 cells on the
     antibody-stamped lines and measuring the intensity of the first order
     diffraction beam resulting from the attachment of cells.  The diffraction
     intensity increases in proportion to the cell d. bound on the surface.

L5   ANSWER 2 OF 12  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2001:453361  HCAPLUS
DOCUMENT NUMBER:          135:43091
TITLE:                    Use of wicking agent to eliminate wash steps for
                          optical diffraction-based
                          biosensors
INVENTOR(S):              Kaylor, Rosann M.; Choi, Abraham B.; Grunze, Michael
                          Heinrich Herbert; Chidebelu-Eze, Chibueze Obinna
PATENT ASSIGNEE(S):       Kimberly-Clark Worldwide, Inc., USA
SOURCE:                   PCT Int. Appl., 43 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
```

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001044813	A2	20010621	WO 2000-US42768	20001212
WO 2001044813	A3	20020502		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6399295	B1	20020604	US 1999-465921	19991217
EP 1238277	A2	20020911	EP 2000-992910	20001212
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: US 1999-465921 A 19991217
WO 2000-US42768 W 20001212

AB The present invention provides an inexpensive and **sensitive** system and method for detecting analytes present in a medium. The system comprises a diffraction enhancing element, such as functionalized microspheres, which are modified such that they are capable of **binding** with a target analyte. Addnl., the system comprises a polymer film, which may include a metal coating, upon which is printed a specific, predetd. pattern of analyte-specific receptors. Finally, the system includes a wicking agent which permits the system to be a single step system which avoids the necessity of any addnl. rinsing steps. Upon attachment of a target analyte to select areas of the polymer film, either directly or with the diffraction enhancing element, diffraction of transmitted and/or reflected light occurs via the phys. dimensions and defined, precise placement of the analyte. A diffraction image, such as a hologram, is produced which can be easily seen with the eye or optionally, with a **sensing** device. A nitrocellulose disk having a hole in the center was placed on top of the sample on **biosensors** for Group B Strep or for IgE to wick away unbound particles and excess liq. A diffraction image is visualized when analyte is present using a point light source aimed through the hole.

L5 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:840499 HCAPLUS
DOCUMENT NUMBER: 134:128177
TITLE: Immobilization of antibodies in micropatterns for cell detection by **optical diffraction**
AUTHOR(S): Morhard, F.; Pipper, J.; Dahint, R.; Grunze, M.
CORPORATE SOURCE: Angewandte Physikalische Chemie, Universitaet Heidelberg, Heidelberg, 69120, Germany
SOURCE: Sensors and Actuators, B: Chemical (2000), B70(1-3), 232-242
CODEN: SABCEB; ISSN: 0925-4005
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Optical diffraction** at biochem. microstructured surfaces has been investigated for the label-free in situ detection of cells. The new **sensor** concept is based on regular arrays of covalently coupled antibodies, which selectively **bind** cells from

soln. Due to the adsorption process, changes are imposed on the intensity distribution of the diffracted light, which can serve to quantify the amt. of adsorbed cells. For the formation of such microstructures, different classical film prepn. techniques were transferred to a mesoscopic scale by the use of microcontact printing (.mu.CP). Alternatively, receptors were functionalized with thiol groups prior to the immobilization process and directly printed onto the gold surface. Compared to imprinting of non-functionalized proteins on gold, a better replication of the micropatterns could be obtained. Addnl., a significantly lower amt. of defects was obsd. than for the classical coupling techniques. Using such microstructures, first expts. on the detection of Escherichia coli **bacteria** were performed. Diffraction patterns have been obsd. for concns. equal or higher than 106 cells/mL. In time dependent expts., diffraction spots occurred after 30-90 min or 10-20 min, depending on whether non-specific cell adsorption or specific **binding** to anti-E. coli IgG was studied. A first quant. anal. of the diffraction patterns shows that the total amt. of diffracted light increases with increasing incubation time.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:637452 HCAPLUS
DOCUMENT NUMBER: 133:348871
TITLE: Affinity aspects of HBsAb-HBsAg interaction on the liquid-solid interface
AUTHOR(S): Wang, D.; Jiang, D.; Yuan, C.
CORPORATE SOURCE: National Laboratory of Molecular and Biomolecular Electronics, Southeast University, Nanjing, 210096, Peop. Rep. China
SOURCE: Colloids and Surfaces, A: Physicochemical and Engineering Aspects (2000), 175(1-2), 129-134
CODEN: CPEAEH; ISSN: 0927-7757
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In this paper we report attempts to directly detect the behaviors of hepatitis B **virus** surface antigen (HBsAg) **binding** procedures and interactions between HBsAg and hepatitis B **virus** surface antibody (HBsAb) on the liq.-solid interfaces. In the work, an **optical transmittance** interferometry based transducer was used to detect the film thickness change in real time. Several hundred nanometer polystyrene films were deposited on the glass slides to construct polymer matrix and HBsAg was immobilized on their surfaces through adsorption. At the incubation end, film thickness increase 5.7, 4.3, 3.1, 2.4 and 1.2 nm at the HBsAg concns. of 5, 4, 3, 2 and 1 mg ml-1, resp. On the 5 mg ml-1 HBsAg coated film surfaces, HBsAg-HBsAb interactions resulted in 5.3, 3.4, 2.7, 1.8 and 0.6 nm film thickness increase at the concns. of 15, 20, 36, 50, and 100 .mu.g ml-1, resp. The mass transport effects and reaction effects were obtained using the **biosensor**. Nonlinear regression anal. indicated that the assocn. const. between HBsAg and HBsAb is 9.5.times.104 M-1s-1 and the dissocn. rate kd is 1.21.times.10-3 s-1, resp.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:421409 HCAPLUS
DOCUMENT NUMBER: 133:40210
TITLE: Patterned deposition of antibody-**binding**

proteins for **optical diffraction** -based **biosensors**
INVENTOR(S): McGrath, Kevin; Kaylor, Rosann M.; Everhart, Dennis S.
PATENT ASSIGNEE(S): Kimberly-Clark Worldwide, Inc., USA
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000036416	A1	20000622	WO 1999-US27727	19991122
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2001055754	A1	20011227	US 1998-213713	19981217
EP 1141709	A1	20011010	EP 1999-960563	19991122
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1998-213713 A 19981217
WO 1999-US27727 W 19991122

AB The present invention provides an inexpensive and **sensitive** device and method for detecting and quantifying analytes present in a medium. The device comprises a metalized film upon which is printed a specific, predetd. pattern of an antibody-**binding** protein. Upon attachment of a target analyte to select areas of the plastic film upon which the protein is printed, diffraction of transmitted and/or reflected light occurs via the phys. dimensions and defined, precise placement of the analyte. A diffraction image is produced which can be easily seen with the eye or, optionally, with a **sensing** device. An **immunosensor** for LH had immobilized protein A printed on a gold/Mylar film. The **sensor** was reacted with monoclonal antibody to LH .beta..

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:402097 HCAPLUS
DOCUMENT NUMBER: 133:40221
TITLE: Patterned **binding** of functionalized microspheres for **optical diffraction** -based **biosensors**
INVENTOR(S): Everhart, Dennis S.; Kaylor, Rosann M.; McGrath, Kevin
PATENT ASSIGNEE(S): Kimberly-Clark Worldwide, Inc., USA
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2000034781	A2	20000615	WO 1999-US27671	19991122
WO 2000034781	A3	20000817		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6221579	B1	20010424	US 1998-210016	19981211
EP 1137942	A2	20011004	EP 1999-961755	19991122

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

US 2001004526	A1	20010621	US 2000-733204	20001208

PRIORITY APPLN. INFO.: US 1998-210016 A 19981211
WO 1999-US27671 W 19991122

AB The present invention provides an inexpensive and **sensitive** system and method for detecting analytes present in a medium. The system comprises a diffraction enhancing element, such as functionalized microspheres, which are modified such that they are capable of **binding** with a target analyte. Addnl., the system comprises a polymer film, which may include a metal coating, upon which is printed a specific, predetd. pattern of analyte-specific receptors. Upon attachment of a target analyte to select areas of the polymer film, either directly or with the diffraction enhancing element, diffraction of transmitted and/or reflected light occurs via the phys. dimensions and defined, precise placement of the analyte. A diffraction image is produced which can be easily seen with the eye or, optionally, with a **sensing** device. Blue polystyrene particles were conjugated with monoclonal antibody. A gold/Mylar film was blocked with .beta.-casein and then antibody was immobilized in a pattern on the surface. LH sample was mixed with the microparticles and then applied to the **sensor**. A nitrocellulose disk with a small hole in the center was used to wick away excess fluid and unbound microparticles. A point light source was transmitted through the hole and **sensor** to create a diffraction image on the other side.

L5 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:368712 HCAPLUS
DOCUMENT NUMBER: 133:2194
TITLE: Method and apparatus for performing a lateral flow assay
INVENTOR(S): Polito, Alan J.; Thayer, Richard M.; Dinello, Robert K.; Sierra, George H.; Nixon, Dennis; Phillips, Alan; Neubarth, Stuart
PATENT ASSIGNEE(S): Praxsys Biosystems, Inc., USA
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000031539	A1	20000602	WO 1999-US27595	19991118

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,

CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6136610	A	20001024	US 1998-199255	19981123
EP 1133694	A1	20010919	EP 1999-960535	19991118
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002530677	T2	20020917	JP 2000-584302	19991118
CN 1257204	A	20000621	CN 1999-124894	19991123

PRIORITY APPLN. INFO.: US 1998-199255 A1 19981123
WO 1999-US27595 W 19991118

AB A test strip adapted to receive a sample and evaluate an analyte comprises an application zone to which a sample may be added; an analyte measurement zone which includes an immobilized analyte **binding** agent; a zone comprising a control **binding** agent; a first control measurement zone which has an immobilized first control agent; and a second control measurement zone which has a second immobilized control agent capable of **binding** to the first control agent, the control measurement zones contain different amts. of immobilized control agents. An embodiment of the present invention provides a method for performing a lateral flow assay. The method includes depositing a sample on a test strip at an application region, detecting a first detection signal arising from the test strip in the first detection zone, and generating a baseline for the first measurement zone by interpolating between values of the detection signal outside of the first measurement zone and inside of the first detection zone. The method may include locating a beginning boundary and an ending boundary for the first measurement zone on the test strip. Addnl. detection zones having measurement zones may also be incorporated with the embodiment.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:454278 HCAPLUS
DOCUMENT NUMBER: 131:85125
TITLE: Method and device comprising capture molecule fixed on disc surface
INVENTOR(S): Remacle, Jose
PATENT ASSIGNEE(S): Belg.
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9935499	A1	19990715	WO 1998-BE206	19981224
W: AL, AM, AU, BA, BB, BG, BR, CA, CN, CU, CZ, DE, DE, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,				

CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2312173	AA	19990715	CA 1998-2312173	19981224
AU 9920418	A1	19990726	AU 1999-20418	19981224
AU 746768	B2	20020502		
BR 9814726	A	20001017	BR 1998-14726	19981224
EP 1044375	A1	20001018	EP 1998-965057	19981224
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
JP 2002501174	T2	20020115	JP 2000-527830	19981224
US 2002177144	A1	20021128	US 2001-35822	20011227

PRIORITY APPLN. INFO.:

US 1997-71726P	P	19971230
WO 1998-BE206	W	19981224
US 2000-582817	A2	20001108

AB The present invention is related to a method for the detection and/or the quantification of a target mol. by its **binding** with a non-cleavable capture mol. fixed on the surface of a disk comprising registered data. The present invention is also related to a disk having fixed upon its surface a non-cleavable capture mol., to its prepn. process, and to a diagnostic and/or reading device of said disk or comprising said disk. **Cytomegalovirus** and HIV DNA and bovine serum albumin were detected on compact disks (CDs). For DNA detection, capture probes were bound to aminated polycarbonate CDs. For protein detection, antibodies were fixed on a carboxylated CD. Detection involved using biotinylated DNA or antibodies, streptavidin-peroxidase, and TMB to give a blue color.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:400272 HCAPLUS
DOCUMENT NUMBER: 129:133118
TITLE: Duck hepatitis B **virus** inactivation and 8-methoxypsoralen photoadduct formation in human platelet concentrates
AUTHOR(S): Eble, Bernard E.; Corash, Laurence
CORPORATE SOURCE: Department of Laboratory Medicine, University of California, San Francisco, CA, 94143-0100, USA
SOURCE: Photochemistry and Photobiology (1998), 67(6), 700-713
CODEN: PHCBAP; ISSN: 0031-8655
PUBLISHER: American Society for Photobiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Photochem. inactivation (PCI) of **virus** and **bacteria** in platelet concs. (PC) has been demonstrated using 8-methoxypsoralen (8-MOP) and long-wavelength UV light (UVA). To study inactivation of blood-borne **virus**, we have employed duck hepatitis B **virus** (DHBV), a model for human hepatitis B **virus**. A specific hepatocyte culture infectivity assay, with PCR detection, could measure 5-6 log10 **virus** kill. The DHBV inactivation in PC was dependent on UVA dose, was enhanced when plasma was reduced from 100% to 20% and was limited by 8-MOP soly. in the reduced-plasma medium. Optimum conditions for PCI were 100 .mu.g/mL 8-MOP in 20% plasma and 80% synthetic platelet storage medium. A radiolabeling assay for 8-MOP photoadducts in hepatocytes seeded into PC confirmed that DHBV inactivation reflected DNA modification and indicated that adduct formation was **insensitive** to minor variations in conditions. Kinetic modeling indicated that optimum adduct formation was a compromise between 8-MOP dark **binding** and **optical transmittance** and that plasma proteins competed for 8-MOP **binding**. The PCI results in various media correlated with corresponding DNA modification densities and were compared to statistical models incorporating DHBV characteristics and

predictions of 8-MOP crosslink formation between DNA strands. Behavior was consistent with one or a small no. of lethal modifications per DNA strand, including monoadducts, but probably not crosslinks alone. A minor subpopulation of DHBV was found to be somewhat more difficult to inactivate, consistent with three-fold lower modification, due possibly to single-stranded DNA character or host repair of photoadducts.

REFERENCE COUNT: 77 THERE ARE 77 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:106712 HCAPLUS
DOCUMENT NUMBER: 128:177814
TITLE: Diffraction-Based Cell Detection Using a Microcontact Printed Antibody Grating
AUTHOR(S): St. John, Pamela M.; Davis, Robert; Cady, Nathan; Czajka, John; Batt, Carl A.; Craighead, Harold G.
CORPORATE SOURCE: School of Applied and Engineering Physics, Cornell Nanofabrication Facility, Ithaca, NY, 14853, USA
SOURCE: Analytical Chemistry (1998), 70(6), 1108-1111
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An optical detector has been fabricated that is specific for targeted **bacterial** cells, by stamping an antibody grating pattern on a silicon surface. The antibody grating alone produces insignificant **optical diffraction**, but upon immunocapture of cells, the optical phase change produces a diffraction pattern. This technique eliminates much of the surface modifications and the secondary immunochem. or enzyme-linked steps that are common in immunoassays. Microcontact printing provides an alternative to previously reported photolithog.-mediated antibody patterning processes and uses a photolithog. process simply to produce the elastomeric stamp. We have stamped antibodies directly onto clean native oxide silicon substrates with no other chem. surface treatments. Direct **binding** of the antibodies to the silicon occurs in a way that still allows them to function and selectively **bind** antigen. The performance of the **sensor** was evaluated by capturing Escherichia coli O157:H7 cells on the antibody-stamped lines and measuring the intensity of the first-order diffraction beam resulting from the attachment of cells. The diffraction intensity increases in proportion to the cell d. bound on the surface.

L5 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:690754 HCAPLUS
DOCUMENT NUMBER: 128:43013
TITLE: Polymerized colloidal crystal hydrogel films as intelligent chemical **sensing** materials
AUTHOR(S): Holtz, John H.; Asher, Sanford A.
CORPORATE SOURCE: Dep. Chem., Univ. Pittsburgh, Pittsburgh, PA, 15260, USA
SOURCE: Nature (London) (1997), 389(6653), 829-832
CODEN: NATUAS; ISSN: 0028-0836
PUBLISHER: Macmillan Magazines
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Chem. **sensors** respond to the presence of a specific analyte in a variety of ways. One of the most convenient is a change in optical properties, and in particular a visually perceptible color change. Here the authors report the prepn. of a material that changes color in response

to a chem. signal by a change in diffraction (rather than absorption) properties. The authors' material is a cryst. colloidal array of polymer spheres (roughly 100 nm diam.) polymd. within a hydrogel that swells and shrinks reversibly in the presence of certain analytes (here metal ions and glucose). The cryst. colloidal array diffracts light at (visible) wavelengths detd. by the lattice spacing, which gives rise to an intense color. The hydrogel contains either a mol.-recognition group that **binds** the analyte selectively (crown ethers for metal ions), or a mol.-recognition agent that reacts with the analyte selectively. These recognition events cause the gel to swell owing to an increased osmotic pressure, which increases the mean sepn. between the colloidal spheres and so shifts the Bragg peak of the diffracted light to longer wavelengths. The authors anticipate that this strategy can be used to prep. 'intelligent' materials responsive to a wide range of analytes, including **viruses**.

L5 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:228175 HCAPLUS
DOCUMENT NUMBER: 110:228175
TITLE: Diffraction immunoassay and reagents and process for manufacturing a biograting for use therein
INVENTOR(S): Gustafson, Eric K.; Lee, John; Calenoff, Emanuel; Trebino, Rick; Tsay, Yuh Geng
PATENT ASSIGNEE(S): Yellowstone Diagnostics Corp., USA
SOURCE: Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 276968	A2	19880803	EP 1988-300590	19880125
EP 276968	A3	19880921		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
US 4876208	A	19891024	US 1987-9177	19870130
US 4886761	A	19891212	US 1987-30327	19870326
CA 1305921	A1	19920804	CA 1988-557096	19880121
IL 85237	A1	19920621	IL 1988-85237	19880128
AU 8810995	A1	19880804	AU 1988-10995	19880129
AU 604830	B2	19910103		
JP 63277969	A2	19881115	JP 1988-17537	19880129

PRIORITY APPLN. INFO.:
US 1987-9177 19870130
US 1987-30327 19870326
US 1987-34876 19870406

AB A diffraction **binding** assay for detg. the presence or quantity of an analyte in an aq. sample comprises (a) contacting a diffraction **binding** assay surface with the sample for a sufficient time, the surface being polycryst. Si (polysilicon) or single-cryst. Si having a light-disturbing design of active analyte-**binding** reagent thereon; (b) sepg. the surface from the sample; and (c) illuminating the diffraction **binding** assay surface and measuring the diffracted light. The biograting is manufd. by adhering a uniform layer of **binding** reagent on a smooth, solid surface and exposing the surface to UV radiation through a shadow mask with diffraction grating lines to selectively deactivate the **binding** reagent to leave a biol. diffraction grating design of lines of active **binding** reagent. A precise focused shadow is cast without phys. contacting the **binding** reagent layer with the mask. A polysilicon-coated Si

wafer was immersed in a soln. of ragweed pollen allergen, rinsed with buffered saline, and dried. A mask having a series of squares corresponding in size and shape to the ultimate chip product and with diffraction grating lines having a line spacing of 10 .mu.m, a line width of 5 .mu.m, and a line d. of 100 lines/cm was positioned in an alignment projector and a sharp image of the lines on the mask was projected with 254-nm UV light for 60 min. The wafer was immersed in 0.1M phosphate-buffered saline (pH 7.4) contg. sucrose 2.5, bovine serum albumin 0.25, and NaN3 0.1 wt. % for 30 min, the excess was removed, and the wafer was dried. The wafer was cut into square chips having a diffraction grating pattern of allergen on it for use in a ragweed-specific IgE immunoassay.

```
=> d que stat l7
L1        119098 SEA FILE=HCAPLUS ABB=ON  ?BIND? AND ?SENS?
L4         14187 SEA FILE=HCAPLUS ABB=ON  L1 AND (?BACT? OR ?VIRUS? OR ?VIRAL?
                 OR ?FUNG? OR ?PROTOZ? OR ?ALLERG?(W)?REACT?)
L5            12 SEA FILE=HCAPLUS ABB=ON  L4 AND ((?OPTIC? OR ?LIGHT?)(W)(?DIFFR
                 ACT? OR ?TRANSMIT? OR ?REFLECT?))
L6            18 SEA L5
L7            17 DUP REMOV L6 (1 DUPLICATE REMOVED)

=> d ibib abs l7 1-17

L7   ANSWER 1 OF 17  WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER:      2002-547708 [58]   WPIDS
CROSS REFERENCE:       2002-454874 [48]; 2002-698476 [75]; 2003-183879 [18]
DOC. NO. NON-CPI:      N2002-433609
DOC. NO. CPI:          C2002-155308
TITLE:                 Conducting an assay with an optical analysis disc for
                       detecting and counting cells, particularly lymphocytes,
                       comprises providing a sample on a disc surface, where the
                       disc has encoded information which is readable by an
                       optical reader.
DERWENT CLASS:         B04 D16 S03
INVENTOR(S):           PYAPALI, G K
PATENT ASSIGNEE(S):    (BURS-N) BURSTEIN TECHNOLOGIES INC
COUNTRY COUNT:         94
PATENT INFORMATION:

     PATENT NO   KIND DATE     WEEK      LA   PG
     ---------------------------------------------
     WO 2002044695 A1 20020606 (200258)* EN   59
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
            NL OA PT SD SE SL SZ TR TZ UG ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
            DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
            LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD
            SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
     AU 2002041602 A  20020611 (200264)

APPLICATION DETAILS:

     PATENT NO   KIND                  APPLICATION      DATE
     ---------------------------------------------------------
     WO 2002044695 A1                  WO 2001-US47055  20011106
     AU 2002041602 A                   AU 2002-41602    20011106

FILING DETAILS:

     PATENT NO   KIND                  PATENT NO
     ---------------------------------------------
     AU 2002041602 A  Based on         WO 200244695

PRIORITY APPLN. INFO: US 2001-302757P  20010703; US 2000-249136P
                      20001116; US 2001-259806P  20010104
AN   2002-547708 [58]   WPIDS
CR   2002-454874 [48]; 2002-698476 [75]; 2003-183879 [18]
AB   WO 200244695 A UPAB: 20030317
     NOVELTY - Conducting an assay with an optical disc and disc drive, by:
          (a) loading a disc having cells on a surface in a chamber, where the
     chamber has a capture zone with a capture agent, into an optical reader
```

and rotating the disc;

(b) directing an incident beam of electromagnetic radiation to the capture zone;

(c) detecting a beam;

(d) converting the detected beam into an output signal; and

(e) analyzing the output signal.

DETAILED DESCRIPTION - Conducting an assay with an optical disc and disc drive comprises:

(a) providing a sample of cells on a disc surface in a chamber in a disc;

(b) loading the disc into an optical reader;

(c) rotating the disc;

(d) directing a beam of electromagnetic radiation to the capture zone;

(e) detecting a beam;

(f) converting the detected beam into an output signal; and

(g) analyzing the output signal to extract the information relating to the number of cells captured at the capture zone.

INDEPENDENT CLAIMS are also included for the following:

(1) an optical disc (100) comprising:

(i) a substrate (106);

(ii) a cap (102) parallel to the substrate, a chamber defined between them and including capture zones;

(iii) a capture layer over the substrate at the capture zones, so that the first capture zone has first cell capture agents and a second capture zone has second cell capture agents; and

(2) an optical disc and drive system for receiving a sample, the system comprising:

(i) the optical disc of (1),

(ii) a light source for directing light to the disc at the capture zones;

(iii) a detector for detecting **light reflected** from or transmitted through the disc at the capture zone and providing a signal; and

(iv) a processor for using the signal to count items in the sample bound to the capture molecules.

USE - The method and apparatus for performing the method are useful in combination with optical analysis to detect and count cells and particularly lymphocytes. The method is useful for determining the number of blood cells with specified cell surface antigens in a biological sample, and also in an immunotyping assay. The method is useful for the determination of an allergic response in a subject, evaluating and monitoring immune responses, for monitoring and evaluating the relative health or immunological status of a person infected with human immunodeficiency **virus** (HIV), or for determining the relative health of the immune system of an individual. The method is useful in the diagnosis of blood disorders, such as leukemia, determining cell counts and diagnosing a disease condition in a human subject or in monitoring the progression of a disease in a subject or in monitoring the effects of certain treatments on the diseased state in a human. The method and apparatus are useful in military and civilian defense contexts for detecting immunological reactions to the environment or to chemical or biological warfare, in food testing and in water safety testing.

ADVANTAGE - The cost of an analysis of a sample is less expensive by this method than a test run in a standard clinical setting. Only a small amount of sample is needed. Benefits of this method include lower costs of both the instrumentation and necessary reagents, speed, **sensitivity**, reproducibility and accuracy and the ability to carry out many assays simultaneously.

DESCRIPTION OF DRAWING(S) - The figure shows the exploded perspective

view of a reflective disc.
Reflective disc 100
Cap 102
Channel layer 104
Substrate 106
Inlet ports 110
Vent ports 112
Fluidic circuits 128
Vent channel 132
Mixing chambers 136, 138
Target zones 140
Dwg.1A/13

L7 ANSWER 2 OF 17 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-575241 [61] WPIDS
CROSS REFERENCE: 1998-101038 [09]; 2000-182755 [16]; 2001-396275 [42]; 2002-337635 [37]; 2002-712260 [77]; 2003-029871 [02]; 2003-040527 [03]; 2003-058307 [05]; 2003-156657 [15]
DOC. NO. CPI: C2002-162893
TITLE: Identifying presence of target agent in sample comprises mixing capture and reporter beads and sample to form dual bead complex, isolating complex, exposing isolate to capture field having capture agent and detecting complex.
DERWENT CLASS: B04 D16
INVENTOR(S): COOMBS, J H; LAM, A H; LO, S; PHAN, B C; VIRTANEN, J A
PATENT ASSIGNEE(S): (BURS-N) BURSTEIN TECHNOLOGIES INC
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002042498	A2	20020530	(200261)*	EN	75
AU 2002016743	A	20020603	(200263)		

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002042498	A2	WO 2001-US44679	20011127
AU 2002016743	A	AU 2002-16743	20011127

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2002016743	A	Based on	WO 200242498

PRIORITY APPLN. INFO: US 2001-272525P 20010301; US 2000-253283P 20001127; US 2000-253958P 20001128
AN 2002-575241 [61] WPIDS
CR 1998-101038 [09]; 2000-182755 [16]; 2001-396275 [42]; 2002-337635 [37]; 2002-712260 [77]; 2003-029871 [02]; 2003-040527 [03]; 2003-058307 [05]; 2003-156657 [15]
AB WO 200242498 A UPAB: 20030303

NOVELTY - Identifying presence of target agent in a sample comprising mixing capture and reporter beads, each having a transport and signal probe affixed to it, respectively, and a sample to form a dual bead complex if target agent is present, isolating complex from mixture to obtain an isolate, exposing isolate to capture field having capture agent that **binds** to complex, on a disc, and detecting presence of complex, is new.

DETAILED DESCRIPTION - Identifying presence of target agent in a sample comprising mixing capture beads, each having a transport probe affixed to it, reporter beads, each having at least one signal probe affixed to it, and a biological sample, under **binding** conditions to permit formation of a dual bead complex if the target agent is present in the sample, where the reporter bead and capture bead is bound to the target, isolating the dual bead complex from the mixture to obtain an isolate, exposing the isolate to a capture field having a capture agent that **binds** to the dual bead complex, on a disc, and detecting the presence of the dual bead complex in the disc, is new.

INDEPENDENT CLAIMS are also included for the following:

(1) a disc for detecting a target agent, comprising a substrate, a capture layer associated with the substrate, capture agent at the capture layer, and a dual bead complex including a reporter bead with a transport probe bound to the target agent, a capture bead with a signal probe bound to the target agent, where one of the transport and signal probe is bound to the capture agent;

(2) a disc system (I) for detecting a target agent comprising a biodisc (BD) having a first capture field and adapted to allow a first dual bead complex including a reporter bead with a transport probe bound to the target agent, and a capture bead with a signal probe bound to the target agent to be bound to the capture field, and a detection system including an energy source for directing energy to the capture field, and a detector for detecting energy to determine the presence of the dual bead complex in the capture field;

(3) a biodisc system (II) for detecting a target agent, comprising BD, where the capture field includes regions on the disc that can be made magnetic, and a drive system including a write head for forming magnetic regions on the disc for capturing dual bead complexes; and

(4) using disc drive write head to form magnetic regions in a biodisc, involves introducing a magnetic beads bound to a biological sample so that it magnetically **binds** to the magnetic region and detecting the sample bound to the bead.

USE - The method is useful for identifying presence of target agent such as a nucleic acid or a protein, in a biological sample such as blood, serum, plasma, cerebrospinal fluid, breast aspirate, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, urine, saliva, amniotic fluid, semen, mucus, hair, feces, biological particulate suspension, single-stranded or double-stranded nucleic acid molecule, cell, organ, tissue or tissue extract. The target agent includes a nucleic acid characteristic of a disease, having a nucleotide sequence specific for a person or an organism (such as **bacterium**, **virus**, mycoplasm, **fungus**, plant or animal), associated with cancer in a human, an antibody which is present only in a subject infected with human immunodeficiency **virus**-1 (HIV-1), a **viral** protein antigen, or a protein characteristic of a disease state in a subject (all claimed). The method is useful for testing for impurities in a sample such as food or water, and for detecting the presence of a material such as a biological warfare agent. The method is also useful for detecting different target agents simultaneously from the same biological sample in the same assay.

ADVANTAGE - The method is very **sensitive** and inexpensive. The system is portable and can be used in remote locations.

Dwg.0/26

L7 ANSWER 3 OF 17 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2003-039571 [03] WPIDS
DOC. NO. CPI: C2003-009324
TITLE: Compositions useful e.g. for treating cancer and activating gene transcription, comprises light emitting nanoparticles for photodynamic therapy.
DERWENT CLASS: A96 B04 D16
INVENTOR(S): CHEN, J
PATENT ASSIGNEE(S): (CHEN-I) CHEN J
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2002127224	A1	20020912	(200303)*		25

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2002127224	A1 Provisional	US 2001-272877P	20010302
		US 2002-91144	20020304

PRIORITY APPLN. INFO: US 2001-272877P 20010302; US 2002-91144 20020304
AN 2003-039571 [03] WPIDS
AB US2002127224 A UPAB: 20030113
NOVELTY - Compositions comprising light emitting nanoparticles for photodynamic therapy (PDT) are new.

DETAILED DESCRIPTION - A composition for use in photodynamic therapy (PDT) comprises a carrier and light-emitting nanoparticles that emit light having a first wavelength which activates a PDT drug which absorbs light of the first wavelength, where the nanoparticles are present in a quantity effective to activate the PDT drug on illumination with light from a light source emitting a second wavelength of light.

INDEPENDENT CLAIMS are also included for the following:

(1) a mixture of light-emitting nanoparticles with light-emitting nanoparticles that absorb light at a third wavelength and emit light at a fourth wavelength, so that 2 PDT drugs can be activated on administration of the mixture;

(2) a conjugate comprising a light-emitting nanoparticle linked to a PDT drug;

(3) PDT comprising:

(a) administering a PDT drug to a treatment area, where the PDT drug absorbs light of a first wavelength;

(b) administering the light-emitting nanoparticles to the treatment area to cause the PDT drug to effect therapy; and

(c) illuminating the treatment area with light from a light source that emits light of the second wavelength, causing the nanoparticles to emit light of the first wavelength;

(4) an illumination system for activating a PDT drug, comprising:

(i) a light source;

(ii) an optical fiber positioned to receive light generated by the light source and transmit light toward an end of the optical fiber; and

(iii) a total internal reflection lens positioned so that the lens receives light from the optical fiber and transmits light from the lens;

(5) an illumination system for activating a PDT drug comprising:

(i) a light source adapted to transmit light of a second wavelength to a treatment site of a patient; and

(ii) a quantity of nanoparticles that emit light having a first wavelength upon illumination by the light source; and

(6) a kit for PDT comprising a packaged combination of light-emitting nanoparticles and an optical fiber.

ACTIVITY - Cytostatic; Antipsoriatic; Ophthalmological. No biological data is given.

MECHANISM OF ACTION - PDT.

USE - The light-emitting nanoparticles can be used in PDT to treat e.g. cancer, psoriasis or macular degeneration, and to activate gene transcription.

ADVANTAGE - The PDT therapy is capable of using light that deeply penetrates tissue, yet activates a wide range of PDT drugs, including drugs that activate at shorter wavelengths in which light will penetrate only shallow portions of tissue. Also, multiple PDT drugs requiring light of diverse wavelengths can be used without having to use multiple lasers or light emitting diode (LED) arrays. The surgeon is able to select from a wide range of PDT drugs, including those whose use has been restricted because of the short wavelength at which they absorb light.

Dwg.0/8

L7 ANSWER 4 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2002:148133 BIOSIS

DOCUMENT NUMBER: PREV200200148133

TITLE: Optical **biosensor** based on nitrite reductase immobilised in controlled pore glass.

AUTHOR(S): Rosa, Carla C.; Cruz, Helder J.; Vidal, Monica; Oliva, Abel G. (1)

CORPORATE SOURCE: (1) Biosensors Laboratory, IBET/ITQB-Instituto de Biologia Experimental e Tecnologica/Instituto de Tecnologia Quimica e Biologica, P-2781-901, Oeiras: oliva@itqb.unl.pt Portugal

SOURCE: Biosensors & Bioelectronics, (January, 2002) Vol. 17, No. 1-2, pp. 45-52. print.
ISSN: 0956-5663.

DOCUMENT TYPE: Article

LANGUAGE: English

AB The increasing concentration of nitrite in groundwater, rivers and lakes brings serious risks to the public health and to the environment. The aim of this work was the development of an optical **biosensor** for quantifying nitrite based on the activity of cytochrome cd1 nitrite reductase immobilised in controlled pore glass (CPG) beads. The developed **biosensor** operates by measuring the **optical reflectance** of nitrite reductase, which shows spectroscopic changes when nitrite reversibly **binds** to the reduced form and oxidises the enzyme. The optimisation of the immobilisation procedure showed that the immobilisation efficiency is highly dependent on the pH, being very low at basic pH, and that the maximum capacity of the CPG for the immobilisation of cd1 was estimated in 57+-10 mg cd1/g CPG. The CPG/cd1 specific activity remained stable at 4degreeC, decreasing only 10% in 15 days. No observed effects of the immobilisation on the enzyme characteristics were detected, regarding both the red/ox absorbance spectra and the enzyme specific activity, since the red/ox spectra are in good agreement with similar ones obtained for cd1 in solution, and the specific activity at time zero (0.6 mu moles of NO2- reduced min-1 mg of protein-1) is similar to that found for the soluble enzyme. The **biosensor** shows a **sensitive** response to increasing concentrations of nitrite in solution, especially at 460 nm, at which it showed higher **sensitivity**. The corresponding detection limit of 0.93 muM is well below the maximum admissible concentration imposed by

European Community norms, of 2.2 muM.

L7 ANSWER 5 OF 17 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-139414 [18] WPIDS
DOC. NO. NON-CPI: N2002-105126
DOC. NO. CPI: C2002-042836
TITLE: Polymer substrate coating method used for e.g. electrical, optical applications, involves buffing particles of dry composition on substrate using applicator pad which moves parallel to substrate.
DERWENT CLASS: A32 P42
INVENTOR(S): CHAMBERS, D C; DIVIGALPITIYA, R; MIHOLICS, G
PATENT ASSIGNEE(S): (MINN) 3M INNOVATIVE PROPERTIES CO
COUNTRY COUNT: 96
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001085361	A2	20011115	(200218)*	EN	32
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
AU 2001061124	A	20011120	(200219)		
US 6511701	B1	20030128	(200311)		
EP 1284828	A2	20030226	(200319)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001085361	A2	WO 2001-US14160	20010502
AU 2001061124	A	AU 2001-61124	20010502
US 6511701	B1	US 2000-567142	20000509
EP 1284828	A2	EP 2001-934988	20010502
		WO 2001-US14160	20010502

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001061124	A	Based on	WO 200185361
EP 1284828	A2	Based on	WO 200185361

PRIORITY APPLN. INFO: US 2000-567142 20000509
AN 2002-139414 [18] WPIDS
AB WO 200185361 A UPAB: 20020319
NOVELTY - A dry composition comprising particles having a Moh's hardness of 0.4-3 and a largest dimension of less than 100 mu m, is coated using an applicator pad (34) on the substrate (8). The particles are buffed on the substrate at a pressure of more than 0 and less than 30 g/cm2. The applicator is moved parallel to the surface of substrate, in multiple directions to form a uniform coating of particle.

DETAILED DESCRIPTION - The coating process is carried out at a temperature of at least 20 deg. C below the softening temperature of the polymer substrate.

An INDEPENDENT CLAIM is also included for a coated polymer substrate.

USE - For formation of coatings (such as **photosensitive**, conductive, writeable or printable, abrasive, ultraviolet (UV) light absorbing, electrically resistive, electrically insulating, static dissipative, thermal conducting, thermally insulating, barrier coating, anti-static, catalytic, photocatalytic, insulative, semiconducting, semi-metallic, lubricating, anti-blocking, anti-**fungal**, UV absorbing, UV blocking, microwave absorbing, **optically reflecting**, decorative, radiation absorbing and radiation reflecting coatings) on polymeric substrate such as polyester, polypropylene, polyethylene, polystyrene, polycarbonate, polyimide, polymethylmethacrylate, polyvinylchloride, cellulose acetate, silicone and rubber (claimed). Especially for forming coating for optical applications such as window film, neutral density filters and mirror, for coating semiconductor material such as molybdenum sulfide or tungsten disulfide, for coating graphite (for microwave, optical and electrical applications) and polyethylene terephthalate/graphite/molybdenum sulfide/graphite composite structure on polyethylene terephthalate substrate. The static dissipative coating is useful for electronic packaging and abrasive products.

ADVANTAGE - The continuous, simple, dry and solventless coating process produces a high quality uniform thin coatings without use of a **binder**. The process utilizes less energy and is carried out in an economical manner. Coatings also may be used to modify the surface energy of the substrate, such that the substrate exhibits any selected surface energy. The coatings release low average number of secondary electrons on incidence of primary electron, hence the coating is environmentally stable. The coating imparts an aesthetically pleasing color and a finish to the substrate. The coatings used in optical applications improves optical clarity and reduces haze value.

DESCRIPTION OF DRAWING(S) - The figure shows side view of apparatus for coating polymer substrate.

Substrate 8

Applicator pad 34

Dwg.2/10

L7 ANSWER 6 OF 17 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2002-055363 [07] WPIDS

DOC. NO. NON-CPI: N2002-040810

DOC. NO. CPI: C2002-015830

TITLE: **Biosensor** useful for detecting analyte e.g. **bacteria** in a medium, comprising a polymer film and a **binder** layer comprising antibody specific for an analyte, inkjet printed in a pattern onto the polymer film.

DERWENT CLASS: A89 B04 D16 S03

INVENTOR(S): CHIDEBELU-EZE, C O; CHOI, A B; KAYLOR, R M

PATENT ASSIGNEE(S): (KIMB) KIMBERLY-CLARK WORLDWIDE INC

COUNTRY COUNT: 94

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001081921	A2	20011101	(200207)*	EN	37

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2001051522 A 20011107 (200219)
EP 1277056 A2 20030122 (200308) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001081921	A2	WO 2001-US11705	20010411
AU 2001051522	A	AU 2001-51522	20010411
EP 1277056	A2	EP 2001-924915	20010411
		WO 2001-US11705	20010411

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001051522	A	Based on	WO 200181921
EP 1277056	A2	Based on	WO 200181921

PRIORITY APPLN. INFO: US 2000-557453 20000424
AN 2002-055363 [07] WPIDS
AB WO 200181921 A UPAB: 20020130
NOVELTY - A **biosensor** (I), comprising a polymer film and a **binder** layer inkjet printed onto the polymer film, in a pattern, is new. The **binder** layer comprises an antibody that is specific for an analyte.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for making (I) (M1) comprising inkjet printing pattern of a **binder** material layer on a polymer film, where the **binder** material comprises an antibody that is specific for an analyte.

USE - (I) is useful for detecting an analyte in a medium. The method comprises contacting the medium suspected of containing the analyte with (I), transmitting a light through the polymer film or reflecting a light from the polymer film, and detecting presence of the analyte bound to the antibody by detecting a pattern formed by diffraction of the transmitted light or the reflected light (claimed) preferably for detecting microorganisms such as **bacteria**, yeasts, **fungi** and **viruses**. (I) is used to detect medical conditions or contamination in garments, such as diapers, and to detect contamination by microorganisms. (I) can also be used on contact lenses, eyeglasses, window panes, pharmaceutical vials, solvent containers, water bottles, adhesive bandages, and the like to detect contamination. (I) is also be used in immunoassay methods for either antigen or antibody detection. The devices may be adapted for use in direct, indirect, or competitive detection schemes.

ADVANTAGE - Unlike prior art devices, (I) allows detection of extremely small quantities of analyte in a medium in a rapid assay lasting only a few minutes. In addition, the device may be manufactured at much lower cost and at faster speeds other than **biosensing** devices. (MI) is useful for the development of single use, disposable **biosensors** based on **light diffraction** to indicate the presence of the analyte. (I) may include diffraction enhancing elements which increase the diffraction efficiency of the **biosensor**, making it possible to detect any number of different analytes.
Dwg.0/2

L7 ANSWER 7 OF 17 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2001-159282 [16] WPIDS
DOC. NO. NON-CPI: N2001-116091
DOC. NO. CPI: C2001-047292
TITLE: Platform for use in analyzing samples simultaneously, comprises an optically transparent substrate having a refractive index (n1), and a thin, optically transparent layer having a greater refractive index than n1.
DERWENT CLASS: A89 B04 D16 J04 S03
INVENTOR(S): BUDACH, W E G; NEUSCHAEFER, D
PATENT ASSIGNEE(S): (NOVS) NOVARTIS AG; (BUDA-I) BUDACH W E G; (NEUS-I) NEUSCHAEFER D
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001002839	A1	20010111	(200116)*	EN	69
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000058243	A	20010122	(200125)		
EP 1192448	A1	20020403	(200230)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
KR 2002019473	A	20020312	(200262)		
US 2002135780	A1	20020926	(200265)		
CN 1369059	A	20020911	(200282)		
JP 2003503732	W	20030128	(200309)		84

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2001002839	A1		WO 2000-EP6238	20000703
AU 2000058243	A		AU 2000-58243	20000703
EP 1192448	A1		EP 2000-943983	20000703
			WO 2000-EP6238	20000703
KR 2002019473	A		KR 2001-716811	20011228
US 2002135780	A1	CIP of	US 2000-609846	20000705
			US 2002-43629	20020110
CN 1369059	A		CN 2000-811268	20000703
JP 2003503732	W		WO 2000-EP6238	20000703
			JP 2001-508036	20000703

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000058243	A	Based on	WO 200102839
EP 1192448	A1	Based on	WO 200102839
JP 2003503732	W	Based on	WO 200102839

PRIORITY APPLN. INFO: GB 2000-11420 20000511; GB 1999-15703 19990705
AN 2001-159282 [16] WPIDS
AB WO 200102839 A UPAB: 20010323
NOVELTY - A platform for use in sample analysis comprising an optically

transparent substrate having a refractive index (n1), and a thin, optically transparent layer, which is formed on one surface of the substrate, having a refractive index (n2) greater than n1, is new.

DETAILED DESCRIPTION - A new platform has incorporated corrugated structures comprising periodic grooves which define **sensing** areas or regions, each for capture elements. The grooves are profiled, dimensioned and oriented so that either:

(a) coherent light incident on the platform is diffracted into individual beams or diffraction orders which interfere resulting in the reduction of the transmitted beam and an abnormal high reflection of the incident light, thus generating an enhanced evanescent field at the surface of the **sensing** areas; or

(b) coherent and linearly polarized light incident on the platform is diffracted into individual beams or diffraction orders which interfere resulting in almost total extinction of the transmitted beam and an abnormal high reflection of the incident light, thus generating an enhanced evanescent field at the surface of the **sensing** areas.

INDEPENDENT CLAIMS are also included for the following:

(1) an apparatus for analyzing samples comprising a platform, for generating a light beam and for directing the beam so that it is incident upon the platform at an angle which causes evanescent resonance to occur in the platform, thus creating an enhanced resonant field in the **sensing** area of the platform, and for detecting a characteristic of a material disposed on or in the vicinity of the **sensing** area of the platform; and

(2) analyzing sample(s) by bringing the sample into contact with the **sensing** area of a platform, irradiating the platform with a light beam such that evanescent occurs within the **sensing** area of the platform, and detecting radiation emanating from the **sensing** area.

USE - The platform is useful in sample analysis. The process may be used in one or more of the following: gene expression, genomics, pharmacogenomics, toxicogenomics, toxicoproteomics, genetics, pharmacogenetics, toxicogenetics, exon/intron expression profiling, human leukocyte antigens (HLA) typing, analysis of splicing variants, proteomics (on-chip protein assays), patient monitoring (drug, metabolites, and markers), point-of-care personalized medicine, diagnostics, on-chip 2d gels for proteomics, single nucleotide polymorphism mini-sequencing, high throughput screening, combinatorial chemistry, protein-protein interaction, molecular interaction, chip-based protein-antibody and peptide interaction, green fluorescent protein, in-situ hybridization, confocal microscopy, fluorescence correlation spectroscopy, conventional microscopy, and MALDI-TOF MS (mass spectroscopy) (all claimed).

ADVANTAGE - Compared with previous techniques of analyzing samples, the new method allows multiple samples to be analyzed simultaneously in an extremely **sensitive**, reliable and quantitative manner. Luminescence crosstalk and local light intensities are well defined, and true multiplexing is allowed. The method is simple and requires solely simple adjustment of the angle of incident light beam.

DESCRIPTION OF DRAWING(S) - The figure shows an apparatus for analyzing optical parameters and evanescent resonance condition of a platform.

glass substrate 30
grooves 31
optically transparent metal oxide layer 32
grooves 33
Dwg.2/10

L7 ANSWER 8 OF 17 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-170704 [22] WPIDS

CROSS REFERENCE: 1999-312406 [26]; 2002-442882 [47]
DOC. NO. CPI: C2002-052630
TITLE: Determining target nucleic acid sequence useful for diagnosing genetic disease or chromosomal abnormality, comprises determining identity of polypeptide encoded by nucleic acid by using mass spectrometry technique.
DERWENT CLASS: A89 B04 D16
INVENTOR(S): HIGGINS, G S; KOESTER, H; LITTLE, D; LOUGH, D
PATENT ASSIGNEE(S): (SEQU-N) SEQUENOM INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6322970	B1	20011127	(200222)*		50

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 6322970	B1 CIP of	US 1997-922201	19970902
		US 1998-146054	19980902

PRIORITY APPLN. INFO: US 1998-146054 19980902; US 1997-922201 19970902
AN 2002-170704 [22] WPIDS
CR 1999-312406 [26]; 2002-442882 [47]
AB US 6322970 B UPAB: 20020725
NOVELTY - New process for determining, (M1), target nucleic acid, (TN), sequence comprises determining identity of polypeptide (P) encoded by TN.

DETAILED DESCRIPTION - Determining, (M1), target nucleic acid (TN) sequence by determining identity of polypeptide (P) encoded by TN involves:

(1) preparing encoded (P) from TN by in vitro translation, or by in vitro transcription followed by translation, of TN;

(2) determining molecular mass of encoded (P) by mass spectrometry; and

(3) determining identity of (P) by comparing molecular mass of (P) with molecular mass of corresponding known (P).

An INDEPENDENT CLAIM is also included for a process for obtaining information on sequences of several nucleic acid molecules by determining the identity of several target polypeptides encoded by the nucleic acid molecules involves (M2-M3):

(a) carrying out steps:

(i) obtaining several nucleic acid molecules encoding several target polypeptide;

(ii) preparing a several differentially mass modified target polypeptides from the several nucleic acid molecules;

(iii) determining the molecular mass of each differentially mass modified target polypeptide in the set by mass spectrometry; and

(iv) determining the identity of each target polypeptide in the set by comparing the molecular mass of each differentially mass modified target polypeptide in the set with molecular mass of a corresponding known polypeptide, thereby obtaining information on several nucleotide sequences encoding the target polypeptides, where each encoded polypeptide is immobilized on the solid support through a cleavable linker; and

(b) carrying out steps:

(i) ; and

(ii) as described for (M2);

(iii) contacting each of the encoded polypeptide with at least one agent that cleaves at least one peptide bond in each encoded polypeptide to produce peptide fragments of each encoded polypeptide;

(iv) determining the molecular mass of at least one of the peptide fragments of each encoded polypeptide in the plurality by mass spectrometry; and

(v) determining the identity of the each encoded polypeptide in the plurality by comparing the molecular mass of peptide fragments of each encoded polypeptide with the molecular mass of peptide fragments of a corresponding known polypeptide.

USE - Obtaining information on a sequence of target nucleic acid molecule by determining identity of a polypeptide encoded by a nucleic acid molecule. The target nucleic acid encoding a polypeptide may be an allelic variant of a polymorphic region of a gene (e.g., BRCA11, BRCA2, APC, dystrophin gene, beta -globin, Factor IX, factor VIIc, ornithine-d-amino-transferase, hypoxanthine guanine phosphoribosyl transferase, cystic fibrosis transmembrane conductance regulator (CFTR), p53, or a proto-oncogene) of a subject, or an allelic variant of a polymorphic region that is located in a chromosomal region that is not in a gene (e.g., a mitochondrial gene). The polymorphic region (e.g., major histocompatibility complex) may be associated with graft rejection, and the novel method in this case is useful for determining compatibility between a donor and recipient of a graft. The allelic variant which is due to a point mutation may be associated with a disease or condition, thereby indicating that a subject has or is at risk of developing a disease or condition. The disease or condition can be associated with an abnormal number of nucleotide repeats (trinucleotide repeats) in the allelic variant, e.g., Huntington's disease, prostate cancer, Fragile X syndrome type A, myotonic dystrophy type I, Kennedy disease, Machodo-Joseph disease, denatorubral and pallidolyusian atrophy, spino bulbar muscular atrophy or aging. The target nucleic acid optionally may comprise nucleotide repeats and the novel method is used for genotyping the subject, forensic analysis and paternity testing. The genotyping is performed by quantifying the number of nucleotide repeats which may be dinucleotide, trinucleotide, tetranucleotide, or pentanucleotide repeats. The method is useful for obtaining sequence information of a target nucleic acid obtained from an infectious organism such as **virus**, **bacterium**, **fungus** or a protist. (M1) is useful for identifying a target nucleic acid molecule by determining the identity of a polypeptide encoded by the nucleic acid molecule. The method involves preparing the encoded polypeptide by in vitro transcription followed by translation, of a target nucleic acid molecule encoding the polypeptide; contacting the encoded polypeptide with at least one agent that cleaves at least one peptide bond in the encoded polypeptide to produce peptide fragments of the encoded polypeptide; determining the molecular mass of at least one of the peptide fragments of the encoded polypeptide by mass spectrometry; and comparing the molecular mass of the peptide fragments of the encoded polypeptide with the molecular mass of peptide fragments of a corresponding known polypeptide, thereby determining the identity of the encoded polypeptide and the target nucleic acid molecule. The encoded polypeptide is immobilized to a solid support prior to contacting the encoded polypeptide with the agent (preferably, an endopeptidase), through a cleavable linker. Preferably, the encoded polypeptide is immobilized to a solid support through a chemically cleavable linker at one terminus of the polypeptide and through a photocleavable linker at the other terminus of the polypeptide. The encoded polypeptide or its fragments is conditioned prior to step (iii) or the fragments of the encoded polypeptide are conditioned prior to step (iv). The conditioning is by anion exchange, cation exchange, treatment with an alkylating agent, treatment with trialkylsilylchloride or incorporation of modified amino

acids (all claimed). (M1) can also be used for diagnosing a genetic disease or chromosomal abnormality; a predisposition to or an early indication of a gene influenced disease or condition, e.g., obesity, atherosclerosis, diabetes, or cancer; or an infection by a pathogenic organism, e.g., **virus**, **bacterium**, parasite or **fungus**; or to provide information relating to identity, heredity or compatibility using mini-satellite or micro-satellite sequences for human leukocyte antigen (HLA) phenotyping. The methods are also useful for identifying mutations, and thus for screening genetic disorders.

ADVANTAGE - The method is fast, reliable, for indirectly obtaining nucleic acid sequence information. Mass spectrometric detection of polypeptides yields analytical signals of far higher **sensitivity** and resolution than signals routinely obtained with DNA due to the inherent instability of DNA to volatilization and its affinity for non-volatile cationic impurities.

Dwg.0/3

L7 ANSWER 9 OF 17 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2001-071107 [08] WPIDS

CROSS REFERENCE: 1999-263346 [20]; 1999-337500 [26]; 1999-469066 [37]; 1999-508897 [42]; 1999-620815 [53]; 2000-171287 [13]; 2000-195340 [16]; 2000-195341 [16]; 2000-205483 [16]; 2000-350420 [29]; 2000-399221 [14]; 2000-476069 [41]; 2000-638039 [61]; 2000-638209 [58]; 2000-679734 [66]; 2001-015532 [48]; 2001-061767 [04]; 2001-091201 [04]; 2001-111649 [08]; 2001-138385 [10]; 2001-182125 [15]; 2001-424730 [45]; 2001-450852 [43]; 2001-557144 [57]; 2002-074364 [74]; 2002-082446 [08]; 2002-099069 [08]; 2002-105609 [05]; 2002-255505 [14]

DOC. NO. NON-CPI: N2001-053798

DOC. NO. CPI: C2001-019912

TITLE: Preparing library of peptide tracers for use in luminescence-based assays, comprises synthesizing peptide tracers on solid supports and interrupting synthesis by inserting luminophore at various locations along peptide chain.

DERWENT CLASS: B04 D16 S03

INVENTOR(S): KAUVAR, L M; SPORTSMAN, J R

PATENT ASSIGNEE(S): (LJLB-N) LJL BIOSYSTEMS INC

COUNTRY COUNT: 93

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000075664	A1	20001214	(200108)*	EN	35

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000057290 A 20001228 (200119)

US 2002006671 A1 20020117 (200212)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000075664	A1	WO 2000-US15774	20000609
AU 2000057290	A	AU 2000-57290	20000609

US 2002006671 A1	Provisional	US 1999-138311P	19990609
	Cont of	WO 2000-US15774	20000609
		US 2001-770724	20010125

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000057290 A	Based on	WO 200075664

PRIORITY APPLN. INFO: US 1999-138311P 19990609; US 2001-770724 20010125

AN 2001-071107 [08] WPIDS

CR 1999-263346 [20]; 1999-337500 [26]; 1999-469066 [37]; 1999-508897 [42]; 1999-620815 [53]; 2000-171287 [13]; 2000-195340 [16]; 2000-195341 [16]; 2000-205483 [16]; 2000-350420 [29]; 2000-399221 [14]; 2000-476069 [41]; 2000-638039 [61]; 2000-638209 [58]; 2000-679734 [66]; 2001-015532 [48]; 2001-061767 [04]; 2001-091201 [04]; 2001-111649 [08]; 2001-138385 [10]; 2001-182125 [15]; 2001-424730 [45]; 2001-450852 [43]; 2001-557144 [57]; 2002-074364 [74]; 2002-082446 [08]; 2002-099069 [08]; 2002-105609 [05]; 2002-255505 [14]

AB WO 200075664 A UPAB: 20020513

NOVELTY - A combinatorial method (M1) to prepare a library of peptide tracers for use in a luminescence-based assay, comprises synthesizing the peptide tracers stepwise on solid phase support through the addition of an amino acid or luminophore (FL), where FL is inserted at the same or different position along the peptide chain, to obtain a library of labeled peptide tracers.

DETAILED DESCRIPTION - The peptide tracers for use in a luminescence-based assay have the formula (I).

AAm-FL-AAn (I).

Where:

AA = any amino acid;

FL = a luminophore other than a naturally occurring amino acid; and

m, n = any integer, where the sum of m and n is greater than 2 but less than 200.

INDEPENDENT CLAIMS are also included for the following:

(1) a library (II) of labeled peptides synthesized by M1;

(2) identifying (M2) a tracer for use in a luminescence polarization assay for a target, where the tracer is the opposite member of a specific **binding** pair comprising the target, comprising:

(a) placing candidate tracers at separate, defined locations on a solid support;

(b) exposing the locations on the support to a target labeled with a long-lifetime emission luminophore (FL-L);

(c) subjecting the solid support to polarized light comprising a wavelength for excitation of the FL-L so as to effect emission of polarized light;

(d) measuring the degree of polarization of the emitted light at each defined location on the solid support; and

(e) identifying as a tracer useful in luminescence polarization assays for the target, a tracer at a defined location having a low degree of measured polarization;

(3) determining the level of expression of a gene by contacting a sample comprising the gene with a luminophore coupled to an oligonucleotide which is the opposite member of a specific **binding** pair of which the mRNA transcribed from the gene is the other member of the pair and measuring the luminescence polarization light emitted from the luminophore as a measure of the expression of the gene;

(4) determining the level or rate of **viral** maturation by

contacting a sample containing the **virus** with a luminophore coupled to a member of a specific **binding** pair whose opposite member is characteristic of the maturation of the **virus**, and measuring the luminescence polarization in the sample, optionally as a function of time, where an increase in luminescence polarization of the sample identifies the **binding** pair member as **binding** to a virion which is a mature form of the **virus**;

(5) determining the dissociation constant of the members of a specific **binding** pair, by measuring the rate of dissociation and association of members of the specific **binding** pair by monitoring the change in luminescence polarization of a sample containing the **binding** pair in coupled and uncoupled form, respectively and calculating the dissociation constant as the ratio of the rates; and

(6) determining (M3) the spatial extent of a sample positioned within a sample holder, by measuring the **light transmitted** from a **sensed** volume positioned at several points within or adjacent the sample holder, and determining the spatial extent of the sample based on the presence or nature of the **light transmitted** from each point.

USE - For preparing a library of peptide tracers for use in luminescence-based assay. Specific labeled peptides containing phosphotyrosine are useful in measuring activation of receptors and luminescent labeled tracer oligonucleotides can be used to quantify mRNA production as a measure of gene expression.

ADVANTAGE - The method provides multiplicity of improvement in homogeneous luminescence polarization assays with increased **sensitivity** and accuracy.

Dwg.0/3

L7 ANSWER 10 OF 17 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-441695 [38] WPIDS
DOC. NO. NON-CPI: N2000-329639
DOC. NO. CPI: C2000-134089
TITLE: Measuring analyte by critical angle refractometry, useful e.g. for diagnosis or monitoring pollutants, by measuring change in refractive index caused by **binding** of analyte to an interface.
DERWENT CLASS: A11 A96 B04 D16 J04 S03
INVENTOR(S): BYRNE, M J; RYAN, T E
PATENT ASSIGNEE(S): (LEIC-N) LEICA MICROSYSTEMS INC
COUNTRY COUNT: 91
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000029830	A1	20000525	(200038)*	EN	85
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000015245	A	20000605	(200042)		
EP 1047929	A1	20001102	(200056)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
CN 1293757	A	20010502	(200143)		
US 6462809	B1	20021008	(200269)		
JP 2002530643	W	20020917	(200276)		103

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2000029830	A1		WO 1999-US26981	19991112
AU 2000015245	A		AU 2000-15245	19991112
EP 1047929	A1		EP 1999-957564	19991112
			WO 1999-US26981	19991112
CN 1293757	A		CN 1999-803956	19991112
US 6462809	B1	Provisional	US 1998-108414P	19981113
		Provisional	US 1999-142207P	19990702
			US 1999-439876	19991112
JP 2002530643	W		WO 1999-US26981	19991112
			JP 2000-582784	19991112

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000015245	A	Based on	WO 200029830
EP 1047929	A1	Based on	WO 200029830
JP 2002530643	W	Based on	WO 200029830

PRIORITY APPLN. INFO: US 1999-142207P 19990702; US 1998-108414P 19981113; US 1999-439876 19991112

AN 2000-441695 [38] WPIDS

AB WO 200029830 A UPAB: 20000811

NOVELTY - A critical angle refractometry method for detecting an analyte (I) at a **binding** layer (BL), comprises passing a light beam through one or more optical elements (OE) to illuminate the interface between BL and an OE. The location of the boundary line between dark and light areas on a **sensor** is detected to indicate presence or absence of (I).

DETAILED DESCRIPTION - Two optically transparent OE, the first having higher refractive index (RI) than the second, which carries BL, are contacted with the test sample. INDEPENDENT CLAIMS are also included for the following:

(1) a similar method to the novelty, using only one OE, which carries BL and has higher optical density than BL;

(2) a similar method to the novelty that uses three media, the third forming an interface with BL, and the components have optical densities sufficient to cause total internal reflection at the third medium/BL interface;

(3) a similar method to the novelty in which (I) is detected from refractometry measurements of the change in optical density of BL;

(4) a method of detecting an analyte at a BL, comprising providing an interface between the BL and an OE, the interface being located along an optical path, the BL and OE having different optical densities to totally internally reflect light impinging on the interface, BL is contacted with a contacting phase, the interface is illuminated with light propagating along the optical path, a portion of the totally internally reflected light propagates between the interface and a **sensing** element, illuminating the **sensing** element to form a light area, the location of the boundary of the light and dark areas on the **sensing** element indicate if an analyte is present at the BL;

(5) a method of detecting an analyte at a BL, comprising providing a light beam generated by a light source, providing an interface between the BL and an OE, which have different optical densities to totally internally reflect light impinging on the interface, contacting BL with a contact phase, illuminating the interface at a predetermined angle of incidence, providing a **sensor sensing** light totally

internally reflected at the interface, and **sensing** the presence of light at the interface, indicating if analyte is present;

(6) a method of detecting an analyte at a BL, comprising providing a critical angle refractometer defining an optical path, directing light along the optical path at the interface between BL and OE, contacting the analyte with BL, and refractomerically detecting changes in the optical density of the **binding** layer and relating the changes to the presence or absence of analyte at BL;

(7) apparatus for the novel method, comprising first and second OEs, where the first OE has a higher refractive index than the second, BL with a lower refractive index deposited on the second OE, a contacting phase contacting BL, a light beam passing through the OEs, causing light to impinge on the interface between the second OE and the BL, and a **sensor sensing** the boundary between light and dark areas on the **sensor**;

(8) a system for detecting the presence of an analyte in a contacting phase, comprising a critical angle refractometer defining an optical path of a light beam impinging on an interface between an OE and a BL deposited on it and having affinity to the analyte, the contacting phase contacting the BL, and a **sensor sensing** a boundary between light and dark areas on the **sensor**; and

(9) a system for detecting the presence of an analyte in a contacting phase, comprising an OE having a BL deposited on it which has affinity to an analyte, a critical angle refractometer defining an optical path of a collimated light beam impinging on an interface between BL and OE, the contacting phase contacting the **binding** layer, and a **sensor** disposed along the optical path to detect changes in an optical density of the BL by **sensing** light travelling along the optical path.

USE - The method is used to detect a wide range of biological analytes such as nucleic acids, proteins, drugs, and microbes, for diagnosis, detecting food-borne pathogens, detecting or monitoring environmental pollutants, pesticides and metabolites, in water quality control, drug discovery, detection of illicit drugs, and in food or drink processing.

ADVANTAGE - Critical angle refractometers are simpler to use and less expensive than surface plasmon resonance instruments currently used to detect refractive index changes, and may be automated fully.

Dwg.7/17

L7 ANSWER 11 OF 17 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 1999-443884 [37] WPIDS
DOC. NO. NON-CPI: N1999-331070
DOC. NO. CPI: C1999-130702
TITLE: **Biosensors** used to detect analyte, e.g. chemical or biological contamination in garments, e.g. diapers.
DERWENT CLASS: A18 A23 A26 A96 B04 D16 D22 E13 J04 P75 S03
INVENTOR(S): EVERHART, D S; JONES, M L; KAYLOR, R M
PATENT ASSIGNEE(S): (KIMB) KIMBERLY-CLARK WORLDWIDE INC
COUNTRY COUNT: 84
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9931486	A1	19990624	(199937)*	EN	39

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV

MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT
UA UG UZ VN YU ZW
AU 9919205 A 19990705 (199948)
US 6060256 A 20000509 (200030)
EP 1040338 A1 20001004 (200050) EN
R: BE DE ES FR GB IT NL SE
CN 1286753 A 20010307 (200140)
KR 2001032322 A 20010416 (200163)
MX 2000004968 A1 20010201 (200168)
US 6436651 B1 20020820 (200257)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9931486	A1	WO 1998-US26759	19981216
AU 9919205	A	AU 1999-19205	19981216
US 6060256	A	US 1997-991644	19971216
EP 1040338	A1	EP 1998-963991	19981216
		WO 1998-US26759	19981216
CN 1286753	A	CN 1998-812255	19981216
KR 2001032322	A	KR 2000-705534	20000520
MX 2000004968	A1	MX 2000-4968	20000519
US 6436651	B1 Div ex	US 1997-991644	19971216
		US 2000-503554	20000211

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9919205	A	Based on	WO 9931486
EP 1040338	A1	Based on	WO 9931486
US 6436651	B1	Div ex	US 6060256

PRIORITY APPLN. INFO: US 1997-991644 19971216; US 2000-503554 20000211

AN 1999-443884 [37] WPIDS

AB WO 9931486 A UPAB: 19990914

NOVELTY - **Biosensors** comprising:

(a) polymer film coated with metal; and

(b) patterned receptor layer printed onto (a) on which is a receptive material that specifically **binds** analyte.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) Methods of detecting analyte using the **sensor**; and

(2) A method of making the **biosensor**.

USE - Used to detect analyte. Used particularly in the field of microcontact printing **binders** on metal films to produce **optical diffraction biosensors**. Used as single tests for detecting analyte or as multiple test devices. Used for detection of chemical or biological contamination in garments such as diapers, detection of contamination by microorganisms in pre-packed foods such as fruit juices and other beverages, and in health diagnostic applications such as diagnostic kits for detection of antigens, microorganisms, and blood constituents. May be used on contact lenses, eyeglasses, windowpanes, pharmaceutical vials, solvent containers, water bottles and plasters to detect contamination. Used in immunoassays for either antigen or antibody detection, for use in direct, indirect or competitive detection systems, for determination of enzymatic activity, for detection of small organic molecules (drugs of abuse, therapeutic drugs, environmental agents) and nucleic acids. Samples with patterned

antibody to Candida albicans were prepared by pretreating gold/polyester (10 nm thick) by immersion in 5 mg/ml phosphate-buffered saline solution (pH 7.2) of beta-casein for 10 minutes. The sample was rinsed thoroughly with distilled water and dried under a strong nitrogen stream. Contact printing was done using a polydimethylsiloxane stamp with an x,y array of 10 mu m diameter circles. The stamp was coated with a thiolated antibody to Candida albicans by immersing in a 0.5 mg/ml aqueous solution of antibody derivative. After 10 minutes, the stamp was removed and thoroughly dried using a strong stream of nitrogen. Contact printing was done on the casein-treated sample, with exposure times of 1 second to 2 minutes being adequate. After printing, the sample was again rinsed with distilled water and dried. The **sensor** sample was exposed to germ tube-bearing cells of C. albicans by inoculating tape-stripped adult forearm skin with a concentration of 106 yeast cells/ml and placing the **sensor** on top of the yeast-containing tape. Transfer of the yeast cells to the **sensor** was accomplished after only a few seconds of contact. Patterned adhesion of the yeast cells to the **sensor** was confirmed by microscopic analysis and resulted in a diffraction image upon irradiation with a laser.

ADVANTAGE - Are inexpensive and **sensitive** devices. Produced by easy, efficient and simple method of contact printing a patterned receptor on an optically transparent, flexible substrate, that is amenable to continuous processing and does not use self-assembling monolayers. Are simpler than prior art, are not restricted to limitations of self-assembling monolayers and are easier to manufacture. Are low-cost and disposable and can be mass-produced.

DESCRIPTION OF DRAWING(S) - Schematic representation of metal-plated MYLAR (RTM) film with nutrient backing.

MYLAR film (RTM: polyethylene-terephthalate) 15
metal film 20
receptors specific for microorganism 25
nutrient backing 30
Dwg.1/8

L7 ANSWER 12 OF 17 MEDLINE

ACCESSION NUMBER:	1998190907 MEDLINE
DOCUMENT NUMBER:	98190907 PubMed ID: 9530002
TITLE:	Diffraction-based cell detection using a microcontact printed antibody grating.
AUTHOR:	St John P M; Davis R; Cady N; Czajka J; Batt C A; Craighead H G
CORPORATE SOURCE:	School of Applied and Engineering Physics, Cornell Nanofabrication Facility, New York, USA.
SOURCE:	ANALYTICAL CHEMISTRY, (1998 Mar 15) 70 (6) 1108-11. Journal code: 0370536. ISSN: 0003-2700.
PUB. COUNTRY:	United States
DOCUMENT TYPE:	Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:	English
FILE SEGMENT:	Priority Journals
ENTRY MONTH:	199804
ENTRY DATE:	Entered STN: 19980422 Last Updated on STN: 20000303 Entered Medline: 19980415

AB An optical detector has been fabricated that is specific for targeted **bacterial** cells, by stamping an antibody grating pattern on a silicon surface. The antibody grating alone produces insignificant **optical diffraction**, but upon immunocapture of cells, the optical phase change produces a diffraction pattern. This technique eliminates much of the surface modifications and the secondary immunochemical or enzyme-linked steps that are common in immunoassays.

Microcontact printing provides an alternative to previously reported photolithographic-mediated antibody patterning processes and uses a photolithographic process simply to produce the elastomeric stamp. We have stamped antibodies directly onto clean native oxide silicon substrates with no other chemical surface treatments. Direct **binding** of the antibodies to the silicon occurs in a way that still allows them to function and selectively **bind** antigen. The performance of the **sensor** was evaluated by capturing Escherichia coli O157:H7 cells on the antibody-stamped lines and measuring the intensity of the first-order diffraction beam resulting from the attachment of cells. The diffraction intensity increases in proportion to the cell density bound on the surface.

L7 ANSWER 13 OF 17 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 1998312341 MEDLINE
DOCUMENT NUMBER: 98312341 PubMed ID: 9648535
TITLE: Duck hepatitis B **virus** inactivation and 8-methoxypsoralen photoadduct formation in human platelet concentrates.
AUTHOR: Eble B E; Corash L
CORPORATE SOURCE: Department of Laboratory Medicine, University of California, San Francisco 94143-0100, USA.
CONTRACT NUMBER: HL43320 (NHLBI)
SOURCE: PHOTOCHEMISTRY AND PHOTOBIOLOGY, (1998 Jun) 67 (6) 700-13. Journal code: 0376425. ISSN: 0031-8655.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199807
ENTRY DATE: Entered STN: 19980811
Last Updated on STN: 19980811
Entered Medline: 19980730

AB Photochemical inactivation (PCI) of **virus** and **bacteria** in platelet concentrates (PC) has been demonstrated using 8-methoxypsoralen (8-MOP) and long-wavelength UV light (UVA). To study inactivation of blood-borne **virus**, we have employed duck hepatitis B **virus** (DHBV), a model for human hepatitis B **virus**. A specific hepatocyte culture infectivity assay, with PCR detection, could measure 5-6 log10 **virus** kill. The DHBV inactivation in PC was dependent on UVA dose, was enhanced when plasma was reduced from 100% to 20% and was limited by 8-MOP solubility in the reduced-plasma medium. Optimum conditions for PCI were 100 micrograms/mL 8-MOP in 20% plasma and 80% synthetic platelet storage medium. A radiolabeling assay for 8-MOP photoadducts in hepatocytes seeded into PC confirmed that DHBV inactivation reflected DNA modification and indicated that adduct formation was **insensitive** to minor variations in conditions. Kinetic modeling indicated that optimum adduct formation was a compromise between 8-MOP dark **binding** and **optical transmittance** and that plasma proteins competed for 8-MOP **binding**. The PCI results in various media correlated with corresponding DNA modification densities and were compared to statistical models incorporating DHBV characteristics and predictions of 8-MOP crosslink formation between DNA strands. Behavior was consistent with one or a small number of lethal modifications per DNA strand, including monoadducts, but probably not crosslinks alone. A minor subpopulation of DHBV was found to be somewhat more difficult to inactivate, consistent with three-fold lower modification, due possibly to single-stranded DNA character or host repair of photoadducts.

L7 ANSWER 14 OF 17 JAPIO COPYRIGHT 2003 JPO
ACCESSION NUMBER: 1992-006420 JAPIO
TITLE: PHOTOELECTRIC CONVERSION ELEMENT
INVENTOR: MIYASAKA TSUTOMU
PATENT ASSIGNEE(S): FUJI PHOTO FILM CO LTD
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 04006420	A	19920110	Heisei	G01J001-00

APPLICATION INFORMATION
STN FORMAT: JP 1990-109494 19900425
ORIGINAL: JP02109494 Heisei
PRIORITY APPLN. INFO.: JP 1990-109494 19900425
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1992
AN 1992-006420 JAPIO
AB PURPOSE: To make it possible to improve preservation stability by fixing a lipid film containing light-**sensitive** chromoprotein (SCP) to the surface of an electrode material by covalent bonding.
CONSTITUTION: SCP **bacteriorhodopsin** which is excellent in stability at the outside of an organism is used. In the step for fixing the thin film of a lipid film containing the SCP, the thin film is fixed by mixing with a **binder** material such as amphipathin compound like phospholipid, biopolymer compound like collagen and synthetic marcomolecular compound like polyethylene oxide. As the conductive electrode to be fixed, the thin film of a conductive metal oxide, especially SiO<SB>2</SB> or the like, which is preferable in **light transmitting** property and in easy fixation is used. Then, the lipid film containing the SCP is fixed on the surface of the electrode substrate by covalent bonding. The fixation is performed by the bonding in addition reaction or condensation reaction by a synthetic chemical method.
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L7 ANSWER 15 OF 17 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1991-374162 [51] WPIDS
DOC. NO. NON-CPI: N1993-151881
TITLE: Photomask used in photolithography process for LSI IC mfr. - has light blocking portion, and two **light transmitting** portions, one of which shifts light by \2 wavelength so **light transmitted** from centres of portions cancels, keeping edge of image steep NoAbstract.
DERWENT CLASS: P84 U11
INVENTOR(S): KAMON, K
PATENT ASSIGNEE(S): (MITQ) MITSUBISHI DENKI KK
COUNTRY COUNT: 2
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 03252659	A	19911111	(199151)*		
US 5219686	A	19930615	(199325)B		12

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 03252659	A	JP 1990-52079	19900301

US 5219686 A US 1990-627590 19901214

PRIORITY APPLN. INFO: JP 1990-52079 19900301
AN 1991-374162 [51] WPIDS
AB JP 03252659 A UPAB: 20030324
The image formation comprises heating the heat development **photosensitive** material having at least the **photosensitive** silver halide, the reducing agent and the **binder** on a base, in presence of water supplied from the outside, the water includes the cpd. of (I) and/or (II): (R1 is alkyl gp., cycloalkyl gp., alkenyl gp., alkynyl gp., aralkyl gp., aryl gp. or heterocyclic gp., these substituents can be substd. by the other substitute, M is H or transition metallic atom, and n is integer 1-3 in (I).

Z is atomic gp. necessary for forming five or six membered nitrogen-contained heterocycle, R2 and R3 are gp. connected with C of Z, and are H, alkyl gp., aralkyl gp., alkenyl gp., alkoxy gp., aryl gp., -NRR', -COOR, -SR, -SO3M', -CONRR', -NO2, halogen, -CN or -OH (R and R' are H, alkyl gp., aryl gp., or aralkyl gp., and M' is H or alkali metallic atom), R2 and R3 may form aliphatic carbon ring or aromatic ring together, the ring may have a substituent, and M and n are same as mentioned in (I), in (II).).

USE/ADVANTAGE - The turbidity of water caused by **bacteria** of the water can be prevented when the water is used while circulated from the container of small capacity, and the generation of the bad smell and the mould can be prevented. @(21pp Dwg.No.0/0)@

ABEQ US 5219686 A UPAB: 19931116
The device comprises a light blocking portion blocking light; and at least one of first and second **light transmitting** portions formed adjacently to the light blocking portion for transmitting the light. The first **light transmitting** portion includes a first portion positioned on one of its ends for transmitting the light in a first phase, and a second portion which is larger than the first portion and is adjacent to the first portion, for transmitting the light in a second phase opposite to the first phase.

The second **light transmitting** portion includes a relatively small third portion positioned on that one of its ends which is asymmetric with the first portion, relative to the light blocking portion, for transmitting the light in the second phase. A fourth portion is larger than and adjacent to the third portion, and transmits the light in the first phase.

ADVANTAGE - Capable of optical image having steep edge, or small half bandwidth, with isolated or grouped pattern. (First major country equivalent to JP3252659)
Dwg.3/7

L7 ANSWER 16 OF 17 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1990-009833 [02] WPIDS
DOC. NO. CPI: C1990-004243
TITLE: **Light diffraction** hybridisation assay - using a bio-grating having a biological diffraction grating design of lines of active hybridising reagent.
DERWENT CLASS: B04 D16 P81
INVENTOR(S): CALENOFF, E; GUSTAFSON, E K; LEE, J; TREBINO, R; YUH-GENG, T; TSAY, Y G
PATENT ASSIGNEE(S): (ADEZ-N) ADEZA BIOMEDICAL CORP; (ADEZ-N) ADEZA BIOMEDICAL; (ASPE-N) ASPEN DIAGNOSTICS I
COUNTRY COUNT: 17
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 350073	A	19900110	(199002)*	EN	16
R: AT BE CH DE ES FR GB GR IT LI LU NL SE					
AU 8937932	A	19900111	(199017)		
JP 02118437	A	19900502	(199024)		
US 5089387	A	19920218	(199210)		
CA 1339117	C	19970729	(199742)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 350073	A	EP 1989-112493	19890707
JP 02118437	A	JP 1989-173154	19890706
US 5089387	A	US 1988-216691	19880707
CA 1339117	C	CA 1989-605154	19890707

PRIORITY APPLN. INFO: US 1988-216691 19880707
AN 1990-009833 [02] WPIDS
AB EP 350073 A UPAB: 19930928
A biograting for use in a **light diffraction** assay is claimed comprising a smooth surface having on the surface a biological diffraction grating design of lines of active hybridising reagent. The smooth surface may be eg single crystalline silicon, aluminium epitaxial silicon coatings, silicon nitride coatings, silicon dioxide coatings or polysilicon coatings. Also claimed is a diffraction hybridising assay method for determining the presence or quanity of an analyte nucleotide sequence in an aqs sample comprising (a) contacting a diffraction hybridising assay surface with the sample for a time sufficient to permit **binding** of hybridising reagent and analyte, the diffraction hybridising assay surface having on the surface a light disturbing design of non-light disturbing hybridising reagent, the hybridising reagent being selected to hybridise selectively with the analyte and (b) illuminating the diffraction hybridising assay surface with light and determining the **light diffraction** by the hybridising assay surface.

The biograting is prepd by adhering a uniform layer of hybridising reagent on a smooth solid surface and exposing the surface to UV radiation through a shadow mask with diffraction grating lines to selectively deactivate the hybridising reagent leaving a biological diffraction grating design of lines of active hybriding reagent.

ADVANTAGE - The incident light is diffracted into a discrete series of angles and the light can be detected and measured with high efficiency. The surfaces provide greatly reduced non-specific hybridisation or **binding** and improved **sensitivity**.

0/6

ABEQ US 5089387 A UPAB: 19930928
Optical diffraction biograting comprises a smooth surface substrate (e.g. Si or Al crystal, or epitaxial Si, SiO2, silicon nitride or polysilicon coatings) on which lines of an active hybridising agent (e.g. nucleotide sequences) have been immobilised, such that in the presence of an analyte, hybridisation occurs with modification of the **optical diffraction** patterns.

USE - The prods. facilitate the rapid analysis of nucleotides in body fluids or body tissues or nucleotides isolated from **bacteria**, **viruses**, **fungi**, algae, and animal or plant cells.

L7 ANSWER 17 OF 17 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1988-214357 [31] WPIDS

DOC. NO. NON-CPI: N1988-163489
DOC. NO. CPI: C1988-095557
TITLE: Bio-grating for **light diffraction** immunoassay - having a poly silicon or single crystalline silicon surface with a diffraction grating design of **binding** reagent.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): CALENOFF, E; GUSTAFSON, E K; LEE, J; TREBINO, R; YUH-GENG, T; TSAY, Y G
PATENT ASSIGNEE(S): (ADEZ-N) ADEZA BIOMEDICAL CORP; (ADEZ-N) ADEZA BIOMEDICAL; (YELL-N) YELLOWSTONE DIAGNOS
COUNTRY COUNT: 18
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 276968	A	19880803	(198831)*	EN	15
R: AT BE CH DE ES FR GB GR IT LI LU NL SE					
AU 8810995	A	19880804	(198838)		
JP 63277969	A	19881115	(198851)		
US 4876208	A	19891024	(199001)		11
US 4886761	A	19891212	(199007)		9
IL 85237	A	19920621	(199234)		
CA 1305921	C	19920804	(199237)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 276968	A	EP 1988-300590	19880125
JP 63277969	A	JP 1988-17537	19880129
US 4876208	A	US 1987-9177	19870130
US 4886761	A	US 1987-30327	19870326
IL 85237	A	IL 1988-85237	19880128
CA 1305921	C	CA 1988-557096	19880121

PRIORITY APPLN. INFO: US 1987-9177 19870130; US 1987-30327 19870326; US 1987-34876 19870406

AN 1988-214357 [31] WPIDS

AB EP 276968 A UPAB: 19930923

A biograting comprises a surface selected from polysilicon and single crystalline silicon surfaces having on the surface, a biological diffraction grating design of lines of active **binding** reagent (I). (I) may be e.g. antibody. antigen, hapten, protein A, lectin, biotin or avidin.

The biograting is prepd. by adhering a uniform layer of bonding reagent on the surface and exposing the surface to UV radiation through a shadow mask with diffraction grating lines to selectively deactivate (I) to leave a biological diffraction grating design of lines of active (I).

USE/ADVANTAGE - The biogrid prod. provides improved **sensitivity** in immunoassay methods using **light diffraction**. By forming a grating of **binding** reagent-analyte complexes on the surface of an insoluble support, the incident light can be diffracted into a discrete series of angles and the light can be detected and measured with high efficiency. Analytes which can be quantitated include **bacteria**, **virus**, enzyme, enzyme inhibitor, Mycoplasmatales spore, parasite, yeast, immunoglobulin, hormone, drug, drug metabolite, sequence, receptor tumour associated marker or carbohydrate.

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ABEQ US 4876208 A UPAB: 19930923

Diffraction immunoassay plate, for use in a **light diffraction** immunoassay, comprises a surface selected form polysilicon and crystalline silicon surfaces having on them a biological diffraction grating design of lines of active **binding** reagent(I). Pref. (I) is proteinaceous, esp. antibody, antigen, hapten, protein A, lectin, biotin or avidin. Pref. the design of lines of reagent (I) is non-light disturbing. A diffraction **binding** assay method for determining the presence or amt. of an analyte in an aq. sample is also described.

USE - New plate is useful in a **light diffraction** immunoassay.

ABEQ US 4886761 A UPAB: 19930923

Assay device comprises a polysilicon surface coated with a bonded layer of a **binding** reagent and then an adsorbed film of non-specific **binding** inhibitor. Suitable **binding** agents are antibodies, antigens, heptens, protein A, lectin, biotin, avidin and nucleotide sequences, etc. Pref. non-specific **binding** inhibitor is a water-soluble protein or polyaminoacid.

USE - The prods. are devices for rapid clinical analysis and diagnosis.